

21



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,114	06/13/2001	Sundeep M. Bajikar	219.40068X00	3214

7590

02/11/2004

Kenyon & Kenyon
1500 K. Street, NW
Suite 700
Washington, DC 20005-1257

EXAMINER

THOMAS, SHANE M

ART UNIT	PAPER NUMBER
----------	--------------

2186

5

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/879,114

Applicant(s)

BAJIKAR, SUNDEEP M.

Examiner

Shane M Thomas

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12, 15, and 16 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 13, 14 and 17-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Evidence for this change stems from page 4, lines 3-4, of the Applicant's disclosure. Applicant states that figure 1 is an --example computer system having a *typical* power management function--. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 100, mentioned throughout the disclosure, is not labeled in figures 1 and 2.

The drawings are further objected to because figure 7 is not coherent with its description on page 17, lines 12-18, of the disclosure. The disclosure states that after the fifo thresholds and delay time are set, the control logic *initiates* the data writing to the hard disk drive 250, but not until the delay time is completed at block 730 and fifo threshold is met in block 740 is data written onto the disk. Figure 7 shows in block 720 that data is written to disk *before* steps 720. The Examiner suggests altering figure 7 as such:

- (1) Amending block 720 to state --*Initiate* Write Data to Disk--
- (2) Creating a new block (block 750 for example) which follows the --YES-- path of block 740, block 750 stating --Write Data to Disk--. Other corrections to figure 7 will be considered as long as a corrected figure 7 portrays the subject matter on page 17, lines 12-18.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- (1) Page 12, line 19 and page 13, line 8. The phrase --mobile PC 200-- should be corrected to --mobile PC 100-- to maintain coherency in the disclosure.
- (2) Page 18, line 15. The phrase --block 520-- should be corrected to --block 820--.
- (3) Page 18, line 16. The phrase --block 820-- should be corrected to --block 830-- in order to maintain coherency with figure 8.
- (4) Page 20, lines 11. The phrase --mPC-- should be changed to --mobile PC-- to maintain coherency within the disclosure.

Appropriate correction is required.

Claim Objections

Claims 6,7,13,14, and 17-20 objected to because of the following informalities

As per claim 6, line 3, and claim 13, line 3, the term --the parameters-- should be amended to just --parameters-- (or the like) since the term --*the* parameters-- has not been previously defined by the claims from which claims 6 and 13 depend, respectfully.

Further, terms --the FIFO threshold level-- and --the delay time-- of lines 10-11 of claims 6 and 13, should be amended to --*a* FIFO threshold level-- and --*a* delay time--, respectively,

Art Unit: 2186

since --*the* FIFO threshold level-- and --*the* delay time-- have not been previously defined by the claims from which claims 6 and 13 depend, respectfully.

As per claim 7, line 2; claim 14, line 2; and claim 20, line 6, the term --the delay time set-- should be amended to --the delay time-- or --the delay time *that was set*-- since the term --the delay time *set*-- is not defined in the claims from which claims 7 and 14 depend, respectfully.

As per claim 17, line 4 and claim 19, line 10, the term --the Navigation mode entry-- should be amended to --the *changed system setting for* Navigation mode--, or the like since the term --the Navigation mode *entry*-- is not defined in claims from which claim 17 depends nor previously in claim 19.

As per claim 19, line 7, the term --the position-- should be amended to --*a* position-- since --*the* position-- is not previously defined in claim 19.

Further regarding claim 19, line 17, the term --the Navigation mode exit-- should be amended to --*break from* Navigation mode--, or the like since the term --*the* Navigation mode *exit*-- is not previously defined in claim 19.

As per claim 20, line 5, the term --the delay time-- should be amended to --*a* delay time-- since --*the* delay time-- has not been previously defined.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8,9,15, and 16 contain the trademark/trade name Bluetooth™. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the *position sensor* and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gushiken (U.S. Patent Application Publication No. 2001/0041587) in view of Okuyama et al. (U.S. Patent Application Publication No. 2002/0126408).

As per claim 1, Gushiken shows a mobile computer system in figure 1 that comprises a power management scheme for use when the system is in a mobile state - away from commercial AC power - refer to ¶6 and ¶7. Gushiken states in ¶86 that when the system is placed in a stable condition, it can request a transfer of the stored data in a buffer memory (34 figure 2A) to the data processing unit (figure 2B). The data processing unit can then store the information into a *storage device*, HDD 17 of the system. Gushiken states in ¶9 that an unstable condition arises when external vibrations are affecting the system, such as when the system is being carried. However, Gushiken does not specifically state a detection means to detect when the mobile computing system of figure 1 is in a stable or unstable condition. Okuyama teaches in ¶68 that a vibration and/or a acceleration sensor is often used to detect external shocks [causing vibration resulting in degradation to the hard disk drive] to an apparatus comprising an external electronic appliance 13 and a magnetic disk apparatus (hard disk drive) 17 (refer to figure 4 of Okuyama).

Art Unit: 2186

When the sensor detects an external shock (*sporadic mechanical vibration*), the data writing operation is stopped to the magnetic disk apparatus in order to protect the data ¶68.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the mobile computer system of Gushiken with the teaching of a vibration and/or acceleration sensor of Okuyama in order to have been able to properly detect an external shock to the mobile computer system (unstable condition) and as a result, prevented the writing of data to the hard disk drive of the system, thereby protecting the hard disk and the data contained therein.

It would have further been obvious to one having ordinary skill in the art to have seen that a *vibration signal* would have been sent from the vibration sensor in order to have informed the system of Gushiken (figures 2A and 2B) of an occurrence of an --unstable-- (sporadic vibration) condition in order to have prevented the writing of data to the hard disk drive 17 at that time duration which the vibration was occurring.

Gushiken further shows a *chipset* (I/O bridge 14 - figure 2B) that has a *storage controller* (combination of IDE controller 142 and transfer controller 33 of figure 2A), which would have limited access of the *storage device* (hard disk drive 17) in the presence of an --unstable condition--, thereby *minimizing damage* to the drive 17.

As per claim 2, Okuyama teaches the use of an --acceleration sensor-- in addition to or without a vibration sensor in ¶68. The Examiner is considering such a signal to have been able to detect a *fixed or variable acceleration* and to have generated a --signal-- that would have been applied to the magnetic disk drive 17 (of Okuyama) to have stopped the data writing operation as described in ¶68. The Examiner is considering this --signal-- produced by the acceleration

Art Unit: 2186

sensor to be a *position signal* since the detection of acceleration of the mobile computing system of Gushiken would have indicated the system was changing position.

As per claim 3, it could have been seen by one having ordinary skill in the art at the time the invention was made that the acceleration sensor of Okuyama would have sent the *position signal* to the *chipset* 14 (figure 2B) of Gushiken since the acceleration sensor controls when a data writing operation should be suspended to the hard disk (§68 of Okuyama) and the chipset 14 of Gushiken controls read/write access to hard disk drive 17. More specifically, the *storage controller* (IDE controller 142 combined with transfer controller 33 of figure 2A) would have limited access to the storage device 17 to prevent damages to the storage device 17 in accordance to the *position signal* received from the acceleration sensor indication the mobile system (figures 2A and 2B of Gushiken) is in an --unstable position--, as described with the vibration signal in the rejection for claim 1.

As per claim 4, as can be seen in figure 2B of Gushiken (element 17), the storage device corresponds to a hard disk drive (HDD). Similarly, a hard disk drive is a magnetic disk apparatus (figure 4, element 17 of Okuyama).

As per claim 5, the storage controller of modified Gushiken (IDE controller 142 combined with transfer controller 33) contains a (1) --register-- in transfer controller 33 for maintaining the logic level of the operable state of the data processing apparatus (figure 2B). The Examiner is considering this --register-- to be a --set timing register-- since the transfer controller 33 must wait for the --set timing register-- (connected to control line 42) to be a --high-- logic level before data can be transferred to the hard disk drive 17 (refer to §79 and §80). Thus the --set timing register-- *controls* the *frequency* of data transfer.

It is inherent that the storage controller of Gushkien comprises a --burst size-- register to control the amount of data that is transferred during each cycle because the data size (Mbps) is known before start-up of the mobile computer system's operating system (§66). Further, it is necessarily inherent that the storage controller contain a register containing the transfer --burst size-- since the IDE controller portion 142 of the storage controller would have needed to know how much data was being transferred from the transfer controller 33 in order to have properly coordinated the transfer from the USB connected component of the mobile system (figure 2A).

Finally, the examiner is considering the --unstable condition-- signal from the vibration signal as being stored in another --register--, such as a latch, in order to have been able to receive notice of a *sustained vibration* and *to have completely blocked hard disk access* as taught by Okuyama in §68.

As per claims 8 and 15, Okuyama states in §69 that when the external sensor (vibration sensor and/or acceleration sensor) is used, a car navigation system may be used as the external electronic appliance (13 of figure 4) which can be seen as being connected the magnetic disk apparatus 17. Therefore, it could have been seen by one having ordinary skill in the art that that the magnetic disk apparatus 17 would have been connected to a car's navigation system 13 which had an acceleration (position) sensor attached. Neither Okuyama nor Gushiken teach implementing the position sensor as taught by Okuyama using GPS standards, but it could have been seen that the acceleration sensor would have had to be capable of receiving some form of signal when in use by the car navigation system in order to determine whether the car was changing position.

Using GPS standards for a car navigation system are well known and accepted standards for obtaining position information. It would have been obvious to one having ordinary skill in the art to have used GPS standards when designing the acceleration sensor of Okuyama since the standards are widely used and accepted. U.S. Patent Application Publication 2003/0191581 to Ukai et al. is being cited as merely an example of using the GPS standard in a car navigation system.

As per claim 10, Gushiken shows a hard *disk drive* 17 and a processor 9 in figure 2B. The processor is equipped with an operation system (§67) and is enabled to run in a normal mode or a --Navigation mode-- when the computer system (figures 2A and 2B) is mobile. The Examiner is considering --normal mode-- to be when the computer system is connected to commercial AC power and thus does not have to rely on battery power (§5), and the Examiner is considering --Navigation mode-- to be when the computer system is not connected to commercial power and running off of an internal battery. Gushiken refers to the --Navigation mode-- as a waiting state that conserves battery power by keeping the computer system in a power-OFF (--idle--) state until instructed to turn ON (§7).

The rejection for lines 6-8 follows the rejection for claim 1, lines 3-5.

The rejection for lines 9-11 follows the rejection for claim 2.

The rejection for lines 12-16 follows the rejection for claim 1, lines 6-7.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gushiken (U.S. Patent Application Publication No. 2001/0041587) in view of Okuyama et al. (U.S. Patent Application Publication No. 2002/0126408), as applied to claim 10, in further view of Applicant's admitted prior art.

As per claim 11, Gushiken states that BIOS-ROM 19 (figure 2B) comprises a *flash memory* that executes routines at startup as well as a utility application for controlling the ON/OFF operation of the power source 21. Gushiken shows in ¶¶75 and ¶¶79-82 how the power functions of the BIOS 19 control the power source 21 when operating in --Navigation mode-- (waiting mode), a mode not comprised in ACPI power management instructions. Gushiken does not specifically state the BIOS-ROM 19 utilizes ACPI instructions to implement various ON/OFF configurations of the mobile computer system. The Applicant states on page 2, lines 9-11 that ACPI instructions are known to *enhance power management functionality and robustness, facilitate and accelerate industry-wide implementation of power management, and create a robust interface for configuring motherboard devices*. Therefore, it would have been obvious to one having ordinary skill in the art to have combined the modified mobile computer system of Gushiken with the teaching of ACPI instruction of the Applicant in order to have saved further battery life of the system of Gushiken.

As per claim 12, the rejection follows the rejection for claim 5.

Allowable Subject Matter

Claims 6,7,9,13,14, and 16-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As per claims 6 and 13, neither Gushiken nor Okuyama teach setting parameters for individual transfers based on the vibration signal from said vibration sensor. Okuyama simply teaches a vibration sensor to suspend writing data to a disk when vibrations are detected. Further, neither Gushiken nor Okuyama teach using FIFO devices [as the buffer 34 (figure 2A of Gushiken)] with the ability to set FIFO threshold levels and a set delay time.

As per claims 9,16, and 17 neither Gushiken nor Okuyama teach using the *position sensor* (acceleration sensor of Okuyama) to *trigger a mobile system to operate in a Navigation mode*. The Navigation mode or --waiting state-- (§7) of Gushiken is set whenever the mobile system of Gushiken is using the battery and not commercial power, and is not triggered by a sensor.

Claims 7,14, and 18 are dependent on allowable claims.

Claims 19 and 20 are allowable.

Gushiken and Okuyama do not teach receiving an indication from a vibration or position sensor which requests operation in a particular mode when *there is a presence of sustained or sporadic mechanical vibrations over a designated time duration or when there is a change in position of the mobile PC at a fixed or variable velocity or acceleration*. However, Gushiken does teach changing system settings at a chipset level (request to turn system ON based on a

Art Unit: 2186

received transmission complete signal - refer to ¶91). Further, this change is detected in the OS since data is then transferred from the buffer 34 (figure 2A) to the hard disk drive 17 of figure 2B. Further, once the data transfer is complete a request to turn the system back in to a -- hibernation mode-- or --waiting state-- (OFF state) occurs at the chipset (OFF request) in order to not consume the battery power of the system when mobile (¶87).

Claim 20 is dependent on allowable claim 19.

Conclusion

Prior art made of record and not relied upon and considered pertinent to applicant's disclosure are listed in PTO-892.

Akiyama et al. (U.S. Patent No. 6,065,094) teaches storing data in a buffer before being transferred to a disc whereas if the system detects an impact or vibration the compression ratio increases in order to increase the capacity of the buffer.

Ukai (U.S. Patent Application Publication No. 2003/0191581) teaches using a GPS standard in a car navigation system.



Sangha et al. (U.S. Patent Application Publication No. 2002/0176430) teaches in ¶150 using a base address register and a transfer size register for transferring data from a buffer memory to a main memory.

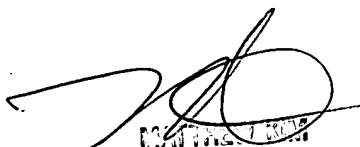
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane M Thomas whose telephone number is (703) 605-0725. The examiner can normally be reached on M-F 8:30 - 5:30.

Art Unit: 2186

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt M Kim can be reached on (703) 305-3821. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 764-7239 for regular communications and (703) 764-7239 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Shane M. Thomas
February 5, 2004



MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100